

(A) from 5 to 60 wt% of a random interpolymer such as ethylene/styrene interpolymer ("ESI"), and

(B) from 95 to 40 wt% of an ethylene polymer.

(Paragraph bridging cols. 1-2.)

In contrast, the presently claimed invention is directed to a foam comprising a blend of

(a) from 0.1 to 4.9 weight percent ESI; and

(b) from 95.1 to 99.9 weight percent polyethylene homopolymer or copolymer.

Thus, the amount of ESI in the claimed blend is lower than that disclosed in Chaudhary. Applicants, therefore, respectfully submit that the claimed foam is novel over Chaudhary.

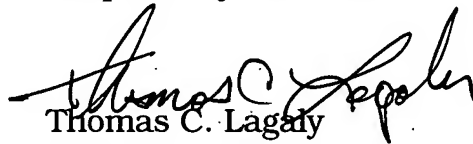
Moreover, as demonstrated in the Examples (please see pages 11-14 and TABLE 1), Applicants surprisingly discovered that if more than 5 wt.% ESI is added to PE, the compressive strength of the resultant foam deteriorates to such an extent that it is less than that of foam made from PE alone (i.e., with no added ESI). On the other hand, when less than 5 wt.% ESI is used, the compressive strength of the PE/ESI foam is greater than PE foam alone.

In addition, Applicants found that an ESI content above 5% caused the foam to exhibit more than 10% creep. Creep is particularly problematic when foam is used in load-bearing packaging applications because the amount of cushioning provided by the foam diminishes over time as creep progresses. In general, a foam that exhibits more than 10% creep is commercially unacceptable for commercial packaging applications. When less than 5 wt.% ESI is blended with PE, the resultant foam was found to exhibit less than 10% creep while still maintaining excellent compressive strength.

Further, PE/ESI foams with less than 5% ESI were found to have more uniform cell distribution and a lower percentage of open cells than foams having more than 5% ESI. As discussed more fully in the specification, more uniformity in the distribution of cells results in better mechanical properties. In addition, for packaging purposes, open cells are undesirable as they decrease the cushioning performance of the foam. Thus, a lower percentage of open cells is beneficial.

The foregoing benefits of using less than 5 wt% ESI as claimed is neither taught nor suggested in Chaudhary. Accordingly, Applicants respectfully submit that the invention as claimed is patentably distinct from Chaudhary. A Notice of Allowance is earnestly solicited.

Respectfully submitted,


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